SUPPLEMENTAL MATERIAL

Table S1. Detailed Model with Patient Factors and Neighborhood Race and Income.

	Adjusted OR (95% CI)	*P* value
PATIENT LEVEL VARIABLES		
Age, per year	0.98 (0.98, 0.98)	<0.001
Female sex	1.18 (1.14, 1.23)	<0.001
Patient race		
White	Reference	Reference
Black	0.95 (0.89, 1.02)	0.19
Other	0.91 (0.85, 0.97)	0.005
Unknown	1.03 (0.99, 1.08)	0.17
Location of arrest		
Home		
Public building	2.11 (2.01, 2.22)	<0.001
Public street or highway	1.62 (1.52, 1.72)	<0.001
Recreational facility	2.86 (2.61, 3.13)	<0.001
Other	1.62 (1.34, 1.95)	<0.001
Bystander witnessed	2.48 (2.39, 2.58)	<0.001
Cardiac arrest etology		
Presumed cardiac	Reference	Reference
Respiratory	0.50 (0.47, 0.53)	<0.001
Other	1.09 (0.99, 1.20)	0.09
First cardiac arrest rhythm		
Shockable	Reference	Reference
Non-shockable	0.16 (0.16, 0.17)	<0.001
NEIGHBORHOOD LEVEL VARIABLES		
Race		
Predominantly White (>80%)	Reference	Reference
Majority Black (>50%)	0.88 (0.82, 0.95)	<0.001
Integrated	1.00 (0.96, 1.04)	0.93
Annual median household income		
>$80,000	Reference	Reference
$40,000 to $80,000	0.89 (0.85, 0.94)	<0.001
<$40,000	0.88 (0.83, 0.94)	<0.001

Table S2. EMS Arrival and Treatment Times by Neighborhood Race and Median Household Income.

	NEIGHBORHOOD RACE				
	>80% White*	**>50% Black**		**Integrated**	
	n = 63,501	**n = 28,144**	**P**	**n = 77,857**	**P**
Time to EMS Arrival					
Median (IQR), minutes	9.0 (6.8, 12.1)	9.0 (7.0, 12.0)	0.008	8.2 (6.3, 11.0)	<0.001
Missing	12,565	13,059		25,165	
EMS Treatment Time					
Median (IQR), minutes	23.4 (16.7, 33.2)	19.7 (13.0, 29.0)	<0.001	21.0 (14.7, 30.0)	<0.001
Missing	24,463	12,634		37,432	

	NEIGHBORHOOD INCOME				
	> $80,000*	**< $40,000**		**$40,000 to $80,000**	
	n = 27,935	**n = 51,087**	**P**	**n = 90,480**	**P**
Time to EMS Arrival					
Median (IQR), minutes	9.0 (7.0, 12.0)	8.0 (6.0, 11.0)	<0.001	8.9 (6.6, 12.0)	<0.001
Missing	9380	17,821		23,588	
EMS Treatment Time					
Median (IQR), minutes	22.8 (16.0, 31.4)	21.0 (14.0, 30.2)	<0.001	22.0 (15.2, 31.5)	<0.001
Missing	14,329	21,361		38,839	

* Reference groups for the neighborhood race and income analyses are predominantly (>80%) white and high-income (median household income >$80,000) neighborhoods.
EMS, emergency medical services; IQR, interquartile range

Table S3. Sequential Models for the Association Between Neighborhood Race and Income and Survival to Discharge.* Among patients with complete times for EMS arrival and EMS treatment, the impact of sequential adjustment for bystander CPR and then EMS arrival and treatment times for the outcome of survival to discharge is shown.

	Adjusted OR (95% CI)	*P*
Neighborhood Race		
> 80% White	Reference	Reference
Integrated		
Initial Model	0.99 (0.94, 1.04)	0.73
+ Adjustment for Bystander CPR	1.00 (0.95, 1.05)	0.97
+ Adjustment for EMS Arrival and Treatment Times	1.00 (0.95, 1.05)	0.95
> 50% Black		
Initial Model	0.80 (0.72, 0.88)	<0.001
+ Adjustment for Bystander CPR	0.82 (0.74, 0.90)	<0.001
+ Adjustment for EMS Arrival and Treatment Times	0.82 (0.74, 0.90)	<0.001
Neighborhood Median Income		
> $80,000	Reference	Reference
$40,000 to $80,000		
Initial Model	0.88 (0.82, 0.94)	<0.001
+ Adjustment for Bystander CPR	0.89 (0.83, 0.95)	<0.001
+ Adjustment for EMS Arrival and Treatment Times	0.89 (0.84, 0.95)	<0.001
< $80,000		
Initial Model	0.81 (0.78, 0.91)	<0.001
+ Adjustment for Bystander CPR	0.84 (0.78, 0.91)	<0.001
+ Adjustment for EMS Arrival and Treatment Times	0.84 (0.78, 0.91)	<0.001

* Initial model estimates by neighborhood race and income in this table differ from the main study cohort (Table 2) as these results are based on only those patients with complete data on EMS arrival and treatment times.

Table S4. Survival Outcomes by Neighborhood Race and Income for Witnessed Out-of-Hospital Cardiac Arrests.

NEIGHBORHOOD RACE

Outcome	>80% White* n = 30,241	>50% Black n = 10,569	Adjusted OR (95% CI)	P	Integrated n = 34,061	Adjusted OR (95% CI)	P
Primary Outcome							
Survival to Hospital Discharge	5092 (16.8%)	1273 (12.0%)	0.89 (0.82, 0.98)	0.02	5793 (17.0%)	0.99 (0.95, 1.04)	0.83
Secondary Outcomes							
Bystander CPR	15,511 (51.3%)	3532 (33.4%)	0.67 (0.63, 0.72)	<0.001	16,204 (47.6%)	0.91 (0.87, 0.94)	<0.001
Survival to Hospital Admission	11,301 (37.4%)	3549 (33.6%)	0.98 (0.92, 1.04)	0.51	13,729 (40.3%)	1.11 (1.07, 1.15)	<0.001
Favorable Neurological Discharge	4457 (14.8%)	820 (7.8%)	0.75 (0.67, 0.83)	<0.001	4816 (14.2%)	0.96 (0.91, 1.01)	0.12

NEIGHBORHOOD INCOME

Outcome	> $80,000* n = 12,905	< $40,000 n = 20,694	Adjusted OR (95% CI)	P	$40,000 to $80,000 n = 41,272	Adjusted OR (95% CI)	P
Primary Outcome							
Survival to Hospital Discharge	2370 (18.4%)	2993 (14.5%)	0.83 (0.77, 0.90)	<0.001	6795 (16.5%)	0.88 (0.83, 0.93)	<0.001
Secondary Outcomes							
Bystander CPR	6786 (52.6%)	8154 (39.4%)	0.71 (0.67, 0.75)	<0.001	20,307 (49.2%)	0.89 (0.85, 0.93)	<0.001
Survival to Hospital Admission	5119 (39.7%)	7826 (37.8%)	0.98 (0.92, 1.03)	0.40	15,634 (37.9%)	0.92 (0.88, 0.97)	<0.001
Favorable Neurological Discharge	2059 (16.0%)	2234 (10.9%)	0.76 (0.70, 0.83)	<0.001	5800 (14.1%)	0.87 (0.81, 0.92)	<0.001

* Reference groups for the neighborhood race and income analyses are predominantly (>80%) white and high-income (median household income >$80,000) neighborhoods.

Table S5. Survival Outcomes by Neighborhood Race and Income for Shockable Out-of-Hospital Cardiac Arrests.

NEIGHBORHOOD RACE

Outcome	>80% White* n = 15,581	>50% Black n = 4351	Adjusted OR (95% CI)	P	Integrated n = 17,228	Adjusted OR (95% CI)	P
Primary Outcome							
Survival to Hospital Discharge	4436 (28.5%)	960 (22.1%)	0.79 (0.69, 0.90)	<0.001	5000 (29.0%)	0.97 (0.91, 1.04)	0.38
Secondary Outcomes							
Bystander CPR	8523 (54.7%)	1395 (32.1%)	0.65 (0.57, 0.74)	<0.001	8681 (50.4%)	0.91 (0.85, 0.97)	0.003
Survival to Hospital Admission	7460 (47.9%)	1814 (41.7%)	0.81 (0.72, 0.92)	0.001	8601 (49.9%)	1.04 (0.97, 1.11)	0.25
Favorable Neurological Discharge	4032 (25.9%)	747 (17.2%)	0.72 (0.62, 0.83)	<0.001	4461 (25.9%)	0.96 (0.90, 1.03)	0.27

NEIGHBORHOOD INCOME

Outcome	> $80,000* n = 6897	< $40,000 n = 9393	Adjusted OR (95% CI)	P	$40,000 to $80,000 n = 20,870	Adjusted OR (95% CI)	P
Primary Outcome							
Survival to Hospital Discharge	2123 (30.8%)	2417 (25.7%)	0.77 (0.69, 0.85)	<0.001	5856 (28.0%)	0.87 (0.80, 0.95)	0.001
Secondary Outcomes							
Bystander CPR	3874 (56.2%)	3829 (40.8%)	0.64 (0.58, 0.70)	<0.001	10,896 (52.2%)	0.86 (0.79, 0.93)	<0.001
Survival to Hospital Admission	3479 (50.4%)	4356 (46.4%)	0.86 (0.78, 0.94)	0.002	10,040 (48.1%)	0.91 (0.84, 0.99)	0.02
Favorable Neurological Discharge	1945 (28.2%)	2042 (21.7%)	0.73 (0.66, 0.81)	<0.001	5253 (25.2%)	0.86 (0.79, 0.94)	<0.001

* Reference groups for the neighborhood race and income analyses are predominantly (>80%) white and high-income (median household income >$80,000) neighborhoods.